No Art of Help; Needed to Search on own w/ diff terms

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=> d his ful

     FILE 'REGISTRY' ENTERED AT 07:55:42 ON 01 JUN 2006
                E GLYCINAMID/CN
                E GLYCINAMIDE/CN
L1            1 SEA ABB=ON  PLU=ON  GLYCINAMIDE/CN
                D
                E HISTIDINE/CN
L2            2 SEA ABB=ON  PLU=ON  HISTIDINE/CN
                D SCAN
                E 4-HYDROXYL PROLINE/CN
                E 4-HYDROXYLPROLINE/CN
                E GLYCINE, GLYCYL/CN
L3            1 SEA ABB=ON  PLU=ON  "GLYCINE, GLYCYL-"/CN
                E HISTIDINE, GLYCYL-/CN
                E L-HISTIDINE, GLYCYL-/CN
L4            1 SEA ABB=ON  PLU=ON  "L-HISTIDINE, GLYCYL-"/CN
L5            1 SEA ABB=ON  PLU=ON  51-35-4
                E  L-PROLINE, 4-HYDROXY-,/CN
                E  L-PROLINE, 4-HYDROXY-/CN
                E  DPROLINE, 4-HYDROXY-/CN
                E  D-PROLINE, 4-HYDROXY-/CN
L6            1 SEA ABB=ON  PLU=ON  "D-PROLINE, 4-HYDROXY-, (4R)-"/CN
L7            2 SEA ABB=ON  PLU=ON  L5 OR L6
L8            7 SEA ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4) OR L7

     FILE 'CAPLUS' ENTERED AT 08:17:11 ON 01 JUN 2006
L9        48947 SEA ABB=ON  PLU=ON  L8
L10         377 SEA ABB=ON  PLU=ON  CARBAMYLAT?/OBI
L11           5 SEA ABB=ON  PLU=ON  L9 AND L10
                E CARBAMYLYTION/CT
                E E3+ALL
L12         968 SEA ABB=ON  PLU=ON  CARBAMOYLATION/CT OR URETHANIZATION/OBI OR
                AMINOCABONYLAT?/OBI
L13        1004 SEA ABB=ON  PLU=ON  L12 OR AMINOCARBONYLAT?/OBI
L14        1281 SEA ABB=ON  PLU=ON  L10 OR L13
L15          13 SEA ABB=ON  PLU=ON  L14 AND L9
L16        1154 SEA ABB=ON  PLU=ON  (AMINOCARBONYLAT? OR CARBAMYLAT? OR
                URETHANIZATION)/BI
L17          21 SEA ABB=ON  PLU=ON  L16 AND L9

     FILE 'REGISTRY' ENTERED AT 08:22:32 ON 01 JUN 2006
                E UREA/CN
L18           1 SEA ABB=ON  PLU=ON  UREA/CN
                E CYANATE/CN
L19           1 SEA ABB=ON  PLU=ON  CYANATE/CN

     FILE 'CAPLUS' ENTERED AT 08:22:46 ON 01 JUN 2006
L20       81995 SEA ABB=ON  PLU=ON  L18 OR L19
L21      218028 SEA ABB=ON  PLU=ON  (UREA OR CYANATE)/BI
L22      221693 SEA ABB=ON  PLU=ON  (L20 OR L21)
L23           8 SEA ABB=ON  PLU=ON  L17 AND L22
L24          16 SEA ABB=ON  PLU=ON  L23 OR L15
                E DIPEPTIDE/CT
L25       13499 SEA ABB=ON  PLU=ON  DIPEPTIDE#/OBI
L26           1 SEA ABB=ON  PLU=ON  L25 AND L13
                D SCAN
L27           1 SEA ABB=ON  PLU=ON  L10 AND L25
L28           1 SEA ABB=ON  PLU=ON  L26 OR L27
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L29      145719 SEA ABB=ON  PLU=ON  UREA/OBI OR CYANATE/OBI OR L20
L30          94 SEA ABB=ON  PLU=ON  L29 AND L25
L31        2542 SEA ABB=ON  PLU=ON  L10 OR CARBAMOYLATION/OBI
L32         118 SEA ABB=ON  PLU=ON  L31 (L) (INHIBIT?/OBI OR STOP?/OBI OR
                PREVENT?/OBI OR DECREAS?/OBI OR LIMIT?/OBI OR HALT?/OBI )
L33           0 SEA ABB=ON  PLU=ON  L32 AND L30
L34          19 SEA ABB=ON  PLU=ON  L31 (L) REAGENT?/OBI
L35           1 SEA ABB=ON  PLU=ON  L34 AND L25
                D SCAN
L36           4 SEA ABB=ON  PLU=ON  L34 AND L29
                D SCAN
L37          19 SEA ABB=ON  PLU=ON  L24 OR (L26 OR L27 OR L28) OR (L35 OR L36)

                E WAN M?/AU
                E WAN M/AU
L38          57 SEA ABB=ON  PLU=ON  WAN M/AU OR WAN M ?/AU
L39          52 SEA ABB=ON  PLU=ON  WAN MIN/AU
L40          34 SEA ABB=ON  PLU=ON  ROPP P?/AU
L41          85 SEA ABB=ON  PLU=ON  L39 OR L40
L42           3 SEA ABB=ON  PLU=ON  L41 AND L29
L43           2 SEA ABB=ON  PLU=ON  L41 AND L31
L44           2 SEA ABB=ON  PLU=ON  L41 AND  L12
L45           3 SEA ABB=ON  PLU=ON  L41 AND (L16 OR CARBAMOYLAT?/BI)
L46           3 SEA ABB=ON  PLU=ON  (L42 OR L43 OR L44 OR L45)
L47           0 SEA ABB=ON  PLU=ON  L46 NOT L37

     FILE 'WPIDS' ENTERED AT 08:44:26 ON 01 JUN 2006
                E WAN M/AU
L48          53 SEA ABB=ON  PLU=ON  WAN M?/AU
L49           3 SEA ABB=ON  PLU=ON  ROPP P?/AU
L50          55 SEA ABB=ON  PLU=ON  L48 OR L49
L51         179 SEA ABB=ON  PLU=ON  CARBAMOYLAT? OR CARBAMYLAT?
L52           2 SEA ABB=ON  PLU=ON  L50 AND L51
L53           1 SEA ABB=ON  PLU=ON  DIPEPTIDE#  AND L51
                D SCAN
L54       53847 SEA ABB=ON  PLU=ON  UREA OR CYANATES
L55          16 SEA ABB=ON  PLU=ON  L54 AND L51
L56           4 SEA ABB=ON  PLU=ON  L55 AND (?PEPTIDE? OR PROTEIN?)
L57           2 SEA ABB=ON  PLU=ON  L50 AND L54
L58           4 SEA ABB=ON  PLU=ON  L52 OR L53 OR L56 OR L57

     FILE 'BIOSIS' ENTERED AT 08:49:53 ON 01 JUN 2006
L59        1123 SEA ABB=ON  PLU=ON  CARBAMYLAT? OR CARBAMOYLAT?
L60      343579 SEA ABB=ON  PLU=ON  DIPEPTIDE? OR PEPTIDE#
L61          66 SEA ABB=ON  PLU=ON  L59 AND L60
L62       84278 SEA ABB=ON  PLU=ON  UREA OR CYANATE?
L63          21 SEA ABB=ON  PLU=ON  L62 AND L61
L64         332 SEA ABB=ON  PLU=ON  L59 AND L62
L65       35611 SEA ABB=ON  PLU=ON  HISTIDINE OR  GLYCINAMIDE OR 4(2W)
                HYDROXY# (2W) PROLINE OR GLY GLY OR GLYCINE GLYCINE OR GLYCINE
                HISTIDINE OR GLY HIS
L66           6 SEA ABB=ON  PLU=ON  L65 AND L64
L67         228 SEA ABB=ON  PLU=ON  L59 (S) (INHIBIT? OR STOP? OR PREVENT? OR
                DECREAS? OR LIMIT? OR HALT?)
L68           2 SEA ABB=ON  PLU=ON  L63 AND L67
L69           8 SEA ABB=ON  PLU=ON  L66 OR L68
                E WAN M/AU
L70         101 SEA ABB=ON  PLU=ON  ("WAN M"/AU OR "WAN M B"/AU OR "WAN M
                C"/AU OR "WAN M C K"/AU OR "WAN M C W"/AU OR "WAN M F"/AU OR
                "WAN M K"/AU OR "WAN M K C"/AU OR "WAN M T"/AU OR "WAN M T
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               K"/AU OR "WAN M W C"/AU OR "WAN M X"/AU) OR ("WAN MIN"/AU OR
               "WAN MIN TAO"/AU OR "WAN MIN XIU"/AU)
               E ROPP P/AU
L71          16 SEA ABB=ON  PLU=ON  ("ROPP P"/AU OR "ROPP P A"/AU) OR "ROPP
               PHILIP A"/AU
L72         117 SEA ABB=ON  PLU=ON  L70 OR L71
L73           1 SEA ABB=ON  PLU=ON  L72 AND (L62 OR L59)
               D SCAN
L74           1 SEA ABB=ON  PLU=ON  L73 NOT L69

     FILE 'CAPLUS, WPIDS, BIOSIS' ENTERED AT 08:57:09 ON 01 JUN 2006
L75          27 DUP REM L37 L58 L69 L74 (5 DUPLICATES REMOVED)
                    ANSWERS '1-19' FROM FILE CAPLUS
                    ANSWERS '20-21' FROM FILE WPIDS
                    ANSWERS '22-27' FROM FILE BIOSIS
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=> fil caplus wpids biosis
FILE 'CAPLUS' ENTERED AT 08:58:12 ON 01 JUN 2006
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE 'WPIDS' ENTERED AT 08:58:12 ON 01 JUN 2006
COPYRIGHT (C) 2006 THE THOMSON CORPORATION

FILE 'BIOSIS' ENTERED AT 08:58:12 ON 01 JUN 2006
Copyright (c) 2006 The Thomson Corporation

=> d que
L1             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  GLYCINAMIDE/CN
L2             2 SEA FILE=REGISTRY ABB=ON  PLU=ON  HISTIDINE/CN
L3             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "GLYCINE, GLYCYL-"/CN
L4             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "L-HISTIDINE, GLYCYL-"/CN
L5             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  51-35-4
L6             1 SEA FILE=REGISTRY ABB=ON  PLU=ON  "D-PROLINE, 4-HYDROXY-,
                  (4R)-"/CN
L7             2 SEA FILE=REGISTRY ABB=ON  PLU=ON  L5 OR L6
L8             7 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L1 OR L2 OR L3 OR L4) OR L7

L9         48947 SEA FILE=CAPLUS ABB=ON  PLU=ON  L8
L10          377 SEA FILE=CAPLUS ABB=ON  PLU=ON  CARBAMYLAT?/OBI
L12          968 SEA FILE=CAPLUS ABB=ON  PLU=ON  CARBAMOYLATION/CT OR URETHANIZA
                 TION/OBI OR AMINOCABONYLAT?/OBI
L13         1004 SEA FILE=CAPLUS ABB=ON  PLU=ON  L12 OR AMINOCARBONYLAT?/OBI
L14         1281 SEA FILE=CAPLUS ABB=ON  PLU=ON  L10 OR L13
L15           13 SEA FILE=CAPLUS ABB=ON  PLU=ON  L14 AND L9
L16         1154 SEA FILE=CAPLUS ABB=ON  PLU=ON  (AMINOCARBONYLAT? OR CARBAMYLAT
                 ? OR URETHANIZATION)/BI
L17           21 SEA FILE=CAPLUS ABB=ON  PLU=ON  L16 AND L9
L18            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  UREA/CN
L19            1 SEA FILE=REGISTRY ABB=ON  PLU=ON  CYANATE/CN
L20        81995 SEA FILE=CAPLUS ABB=ON  PLU=ON  L18 OR L19
L21       218028 SEA FILE=CAPLUS ABB=ON  PLU=ON  (UREA OR CYANATE)/BI
L22       221693 SEA FILE=CAPLUS ABB=ON  PLU=ON  (L20 OR L21)
L23            8 SEA FILE=CAPLUS ABB=ON  PLU=ON  L17 AND L22
L24           16 SEA FILE=CAPLUS ABB=ON  PLU=ON  L23 OR L15
L25        13499 SEA FILE=CAPLUS ABB=ON  PLU=ON  DIPEPTIDE#/OBI
L26            1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L25 AND L13
L27            1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L10 AND L25
L28            1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L26 OR L27
L29       145719 SEA FILE=CAPLUS ABB=ON  PLU=ON  UREA/OBI OR CYANATE/OBI OR L20

L31         2542 SEA FILE=CAPLUS ABB=ON  PLU=ON  L10 OR CARBAMOYLATION/OBI
L34           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L31 (L) REAGENT?/OBI
L35            1 SEA FILE=CAPLUS ABB=ON  PLU=ON  L34 AND L25
L36            4 SEA FILE=CAPLUS ABB=ON  PLU=ON  L34 AND L29
L37           19 SEA FILE=CAPLUS ABB=ON  PLU=ON  L24 OR (L26 OR L27 OR L28) OR
                 (L35 OR L36)
L48           53 SEA FILE=WPIDS ABB=ON  PLU=ON  WAN M?/AU
L49            3 SEA FILE=WPIDS ABB=ON  PLU=ON  ROPP P?/AU
L50           55 SEA FILE=WPIDS ABB=ON  PLU=ON  L48 OR L49
L51          179 SEA FILE=WPIDS ABB=ON  PLU=ON  CARBAMOYLAT? OR CARBAMYLAT?
L52            2 SEA FILE=WPIDS ABB=ON  PLU=ON  L50 AND L51
L53            1 SEA FILE=WPIDS ABB=ON  PLU=ON  DIPEPTIDE#  AND L51
L54        53847 SEA FILE=WPIDS ABB=ON  PLU=ON  UREA OR CYANATES
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L55          16 SEA FILE=WPIDS ABB=ON  PLU=ON  L54 AND L51
L56           4 SEA FILE=WPIDS ABB=ON  PLU=ON  L55 AND (?PEPTIDE? OR PROTEIN?)

L57           2 SEA FILE=WPIDS ABB=ON  PLU=ON  L50 AND L54
L58           4 SEA FILE=WPIDS ABB=ON  PLU=ON  L52 OR L53 OR L56 OR L57
L59        1123 SEA FILE=BIOSIS ABB=ON  PLU=ON  CARBAMYLAT? OR CARBAMOYLAT?
L60      343579 SEA FILE=BIOSIS ABB=ON  PLU=ON  DIPEPTIDE? OR PEPTIDE#
L61          66 SEA FILE=BIOSIS ABB=ON  PLU=ON  L59 AND L60
L62       84278 SEA FILE=BIOSIS ABB=ON  PLU=ON  UREA OR CYANATE?
L63          21 SEA FILE=BIOSIS ABB=ON  PLU=ON  L62 AND L61
L64         332 SEA FILE=BIOSIS ABB=ON  PLU=ON  L59 AND L62
L65       35611 SEA FILE=BIOSIS ABB=ON  PLU=ON  HISTIDINE OR  GLYCINAMIDE OR
                4(2W) HYDROXY# (2W) PROLINE OR GLY GLY OR GLYCINE GLYCINE OR
                GLYCINE HISTIDINE OR GLY HIS
L66           6 SEA FILE=BIOSIS ABB=ON  PLU=ON  L65 AND L64
L67         228 SEA FILE=BIOSIS ABB=ON  PLU=ON  L59 (S) (INHIBIT? OR STOP? OR
                PREVENT? OR DECREAS? OR LIMIT? OR HALT?)
L68           2 SEA FILE=BIOSIS ABB=ON  PLU=ON  L63 AND L67
L69           8 SEA FILE=BIOSIS ABB=ON  PLU=ON  L66 OR L68
L70         101 SEA FILE=BIOSIS ABB=ON  PLU=ON  ("WAN M"/AU OR "WAN M B"/AU OR
                "WAN M C"/AU OR "WAN M C K"/AU OR "WAN M C W"/AU OR "WAN M
                F"/AU OR "WAN M K"/AU OR "WAN M K C"/AU OR "WAN M T"/AU OR
                "WAN M T K"/AU OR "WAN M W C"/AU OR "WAN M X"/AU) OR ("WAN
                MIN"/AU OR "WAN MIN TAO"/AU OR "WAN MIN XIU"/AU)
L71          16 SEA FILE=BIOSIS ABB=ON  PLU=ON  ("ROPP P"/AU OR "ROPP P A"/AU)
                OR "ROPP PHILIP A"/AU
L72         117 SEA FILE=BIOSIS ABB=ON  PLU=ON  L70 OR L71
L73           1 SEA FILE=BIOSIS ABB=ON  PLU=ON  L72 AND (L62 OR L59)
L74           1 SEA FILE=BIOSIS ABB=ON  PLU=ON  L73 NOT L69
L75          27 DUP REM L37 L58 L69 L74 (5 DUPLICATES REMOVED)


=> d .ca l75 1-19; d ibib ab ct l75 20-27

L75  ANSWER 1 OF 27  CAPLUS  COPYRIGHT 2006 ACS on STN DUPLICATE 1
ACCESSION NUMBER:         2005:122708  CAPLUS
DOCUMENT NUMBER:          142:193969
TITLE:                    Control of cyanate in aqueous urea
                          solutions by non-1,2-ethylene diamine like compounds
                          for the protection of protein/peptide
                          carbamylation
INVENTOR(S):              Ropp, Philip A.; Williams, Christie Lynn; Murray,
                          Michael; Lin, Miao Fang
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 8 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     ---------------      ----   --------    --------------------     --------
     US 2005032153         A1    20050210    US 2004-836879           20040430
PRIORITY APPLN. INFO.:                       US 2003-466686P      P   20030430
ED   Entered STN:  11 Feb 2005
AB   Embodiments of the present invention generally relate to processing of
     peptides in urea solns. and substantial prevention of
     carbamylation of the peptide.
IC   ICM  C12P021-06
```

ICS C07K001-04
INCL 435068100; 530332000; 530409000
CC 9-11 (Biochemical Methods)
ST **cyanate urea** soln peptide **carbamylation**
IT pH
(biol. effects of; control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT Storage
(control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT **Carbamoylation**
(prevention of; control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT Peptides, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**urea**-based; control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT Buffers
(**urea**-containing; control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT 9001-99-4
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(A; control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)
IT **51-35-4**, 4-HydroxyL-proline 52-90-4, L-Cysteine, biological studies 56-40-6, Glycine, biological studies 56-87-1, L-Lysine, biological studies **57-13-6**, **Urea**, biological studies **71-00-1**, L-Histidine, biological studies 72-19-5, L-Threonine, biological studies 74-79-3, L-Arginine, biological studies 86-54-4, Hydralazine 107-15-3, 1,2-Ethylene diamine, biological studies 107-35-7, Taurine 111-42-2, Diethanolamine, biological studies 556-33-2, Triglycine **556-50-3**, Glycylglycine **598-41-4**, Glycinamide **661-20-1**, **Cyanate** 2578-58-7, L-Histidylglycine
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(control of **cyanate** in aqueous **urea** solns. by non-1,2-ethylene diamine like compds. for protection of protein/peptide **carbamylation**)

L75 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 2
ACCESSION NUMBER: 2004:701723 CAPLUS
DOCUMENT NUMBER: 141:202273
TITLE: **Reagents** for protection of peptide/proteins **carbamylation** in **urea** solutions utilizing non-ethylene-diamine like compounds
INVENTOR(S): Wan, Min; Ropp, Phillip
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004166572	A1	20040826	US 2004-785369	20040223
WO 2005051979	A1	20050609	WO 2004-US5374	20040223

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-449091P P 20030221
ED Entered STN: 27 Aug 2004
AB The present invention generally relates to non-ethylene diamine like compds. that prevent and/or delay **carbamylation** of peptides.
IC ICM C12N009-22
ICS C12N009-99; C12P021-06
INCL 435184000; 435199000
CC 7-2 (Enzymes)
Section cross-reference(s): 3, 9
ST protection peptide protein **carbamylation urea** soln nonethylenediamine
IT Buffers
Carbamoylation
(**reagents** for protection of peptide/proteins **carbamylation** in **urea** solns. utilizing non-ethylene-diamine like compds.)
IT Peptides, biological studies
Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(**reagents** for protection of peptide/proteins **carbamylation** in **urea** solns. utilizing non-ethylene-diamine like compds.)
IT **Dipeptides**
RL: RGT (Reagent); RACT (Reactant or reagent)
(**reagents** for protection of peptide/proteins **carbamylation** in **urea** solns. utilizing non-ethylene-diamine like compds.)
IT 9001-99-4, RNase
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
(A; **reagents** for protection of peptide/proteins **carbamylation** in **urea** solns. utilizing non-ethylene-diamine like compds.)
IT **57-13-6, Urea**, reactions **71-00-1**, Histidine, reactions 107-15-3, Ethylene diamine, reactions 147-85-3, L-Proline, reactions **556-50-3 598-41-4**, Glycinamide **661-20-1, Cyanate 2489-13-6**
RL: RGT (Reagent); RACT (Reactant or reagent)
(**reagents** for protection of peptide/proteins **carbamylation** in **urea** solns. utilizing non-ethylene-diamine like compds.)

L75 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 3
ACCESSION NUMBER: 2004:284765 CAPLUS
DOCUMENT NUMBER: 141:84859
TITLE: Ion chromatographic quantification of **cyanate** in **urea** solutions: estimation of the efficiency of **cyanate** scavengers for use in recombinant protein manufacturing
AUTHOR(S): Lin, Miao-Fang; Williams, Christie; Murray, Michael V.; Conn, Greg; Ropp, Philip A.
CORPORATE SOURCE: Diosynth RTP, Purification Process Development Departments, Inc., Cary, NC, 27513, USA
SOURCE: Journal of Chromatography, B: Analytical Technologies in the Biomedical and Life Sciences (2004), 803(2), 353-362
CODEN: JCBAAI; ISSN: 1570-0232
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 07 Apr 2004
AB The chaotrope **urea** is commonly used during recombinant protein manufacturing as a denaturant/solublizing agent. The adventitious accumulation of **cyanate** in **urea** solns. during product manufacturing can cause unwanted **carbamylation** of proteins, leading to alterations in drug product structure, stability and function. We have developed an ion chromatog. method to quantify **cyanate** production in **urea** solns., suitable for anal. of samples from manufacturing process buffers. We discuss assay development, system suitability criteria and limitations on assay applicability. The assay has a linear range from 2 to 250 μM, with LOQ/LOD values of 6 and 2 μM, resp. Assay accuracy through spike/recovery testing were established and both precision and intermediate precision were estimated We assessed the utility of the assay by testing a variety of biol. buffers and potential **cyanate** scavengers, which could be used during protein purification processes, for their ability to control the level of **cyanate** in 8 M **urea** solns. buffered over the range of pH 5-10. Our results demonstrate pH dependence for prevention of **cyanate** accumulation by these buffers/scavengers and indicate useful buffers, pH ranges, and additives for controlling **cyanate** accumulation during recombinant protein manufacturing The pertinence of these approaches in preventing protein **carbamylation** during manufacturing are discussed.
CC 9-3 (Biochemical Methods)
Section cross-reference(s): 16
ST ion chromatog quantification **cyanate** **urea** protein manuf
IT Ion chromatography
Scavengers
(ion chromatog. quantification of **cyanate** in **urea** solns. for estn **cyanate** scavengers for use in recombinant protein manufacturing)
IT Proteins
RL: BCP (Biochemical process); BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation); PROC (Process)
(ion chromatog. quantification of **cyanate** in **urea** solns. for estn **cyanate** scavengers for use in recombinant protein manufacturing)
IT 77-86-1, Tris 102-71-6, Triethanol amine, analysis 150-25-4, Bicine **556-50-3** **598-41-4**, Glycinamide 5704-04-1, Tricine 14265-44-2, Phosphate, analysis
RL: ARU (Analytical role, unclassified); ANST (Analytical study)

(ion chromatog. quantification of **cyanate** in **urea** solns. for estn **cyanate** scavengers for use in recombinant protein manufacturing)

IT **57-13-6**, **Urea**, biological studies **661-20-1**, **Cyanate**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(ion chromatog. quantification of **cyanate** in **urea** solns. for estn **cyanate** scavengers for use in recombinant protein manufacturing)

REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 4
ACCESSION NUMBER: 1997:711781 CAPLUS
DOCUMENT NUMBER: 128:72245
TITLE: Dissecting the catalytic mechanism of staphylococcal lipases using carbamate substrates: chain length selectivity, interfacial activation, and cofactor dependence
AUTHOR(S): Simons, Jan-Willem F. A.; Boots, Jan-Willem P.; Kats, Mark P.; Slotboom, Arend J.; Egmond, Maarten R.; Verheij, Hubertus M.
CORPORATE SOURCE: Department of Enzymology and Protein Engineering CBLE, Utrecht University, Neth.
SOURCE: Biochemistry (1997), 36(47), 14539-14550
CODEN: BICHAW; ISSN: 0006-2960
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 Nov 1997
AB P-Nitrophenyl N-alkylcarbamates with different alkyl chains were used as substrates to determine sep. the **carbamylation** and decarbamylation rates of the lipases from Staphylococcus hyicus and S. aureus. Both enzymes are reversibly inhibited by these compds. due to a rapid **carbamylation** of their active site serines followed by a slow decarbamylation. The **carbamylation** reaction is strongly pH-dependent and the pH profile suggests that an unprotonated histidine is required for this reaction. In contrast, the decarbamylation is pH-independent suggesting the presence of a hydrogen bond between the active site histidine and the carbamyl moiety. S. hyicus lipase preferably reacts with medium to long chain carbamates with an optimum for eight carbon atoms. In contrast, S. aureus lipase is highly specific for short chain carbamates. These results are in agreement with the resp. substrate preferences of both lipases toward natural lipids. The decarbamylation rates of both enzymes hardly depend on the alkyl chain length, and from this it is concluded that chain length selectivity is expressed in the first step of catalysis. Both the **carbamylation** and decarbamylation reaction rates of S. hyicus lipase are enhanced in the presence of micelles, the activation effect being most pronounced in the first step. For the S. aureus lipase only a small influence of interfaces on both reaction steps was observed These results are discussed in view of a possible role of a lid covering the active site. Kinetic expts. in the presence and absence of calcium strongly suggest that calcium ions are important for the structural stabilization of the unmodified as well as of the **carbamylated** enzymes. This structural function of calcium was supported by **urea** unfolding expts., from which it appeared that for both enzymes, the free energy for unfolding is significantly lower in the absence of calcium. In conclusion the authors' results show that the kinetic differences between both lipases reside in the acylation step, and that calcium is important for the structural stabilization of

the unmodified, and moreover, the acylated enzymes.
CC 7-3 (Enzymes)
IT **Carbamoylation**
Conformational free energy
Hydrogen bond
Staphylococcus aureus
Staphylococcus hyicus
(carbamate substrate chain length selectivity, interfacial activation, and cofactor dependence in relation to catalytic mechanism of staphylococcal lipases)
IT 56-45-1, L-Serine, biological studies **71-00-1**, L-Histidine, biological studies 7440-70-2, Calcium, biological studies
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(carbamate substrate chain length selectivity, interfacial activation, and cofactor dependence in relation to catalytic mechanism of staphylococcal lipases)
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN DUPLICATE 5
ACCESSION NUMBER: 1982:30757 CAPLUS
DOCUMENT NUMBER: 96:30757
TITLE: Chemical modification of lysine and histidine residues in phospholipase A2 from the venom of Naja naja atra (Taiwan cobra)
AUTHOR(S): Yang, C. C.; King, K.; Sun, T. P.
CORPORATE SOURCE: Inst. Mol. Biol., Natl. Tsing Hua Univ., Hsinchu, 300, Taiwan
SOURCE: Toxicon (1981), 19(5), 645-59
CODEN: TOXIA6; ISSN: 0041-0101
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB The major phospholipase A2 (I) activity isolated from N. naja atra venom was homogeneous by disc electrophoresis and had an isoelec. point (pI) of 5.2. The sp. activity was 3400 units/mg protein, and the LD50 was 8 mg/kg mouse. Purified I was subjected to lysine modification with **cyanate** at pH 8.0, and the **carbamylated** derivs. were separated by DEAE-Sephacel chromatog. into 8 fractions (DE-1 to DE-8). Amino acid anal. showed that 1-5 lysine (Lys) residues were modified. The modification of increasing nos. of Lys residues was associated with progressive decreases in pI values and marked decreases (3- to >30-fold) in LD50 values. However, the decrease in enzymic activity was slight and antigenic specificity was unaffected. Thus, there is a clear dissociation between enzymic activity and lethal toxicity. The enzyme was also subjected to chemical modification with p-bromophenacyl bromide. Alkylation of the only histidine residue (His-47), located at the active site, destroys both catalytic activity and lethal toxicity, whereas the antigenicity remained unchanged. Although the native and Lys- and His-modified I activities were perturbed by Ca2+ and the difference spectra of Lys-modified DE-6 was similar to that of native I, the difference spectra of His-modified I differed greatly from that of the native enzyme. The emission intensity of the 8-anilinonaphthalenesulfonate-enzyme complex was altered by increasing concns. of Ca2+, and different results were observed at different pH values, indicating that Ca2+ causes pH-dependent conformational changes. Scatchard plots showed only 1 type of specific interaction between 8-anilinonaphthalenesulfonate and native or Lys-modified enzyme (DE-6), and the dissociation constant of Lys-modified DE-6 was similar to that of the

native enzyme. On the other hand, the His-modified enzyme lost the ability to bind 8-anilinonaphthalenesulfonate.

CC 7-5 (Enzymes)
Section cross-reference(s): 4

IT **71-00-1**, biological studies
RL: BIOL (Biological study)
(of phospholipase A2 active site, of cobra venom, toxicity in relation to)

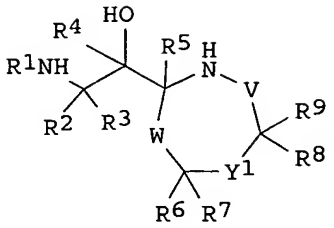
L75 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:141026 CAPLUS
DOCUMENT NUMBER: 142:240330
TITLE: Preparation of cyclic amine BACE-1 inhibitors having a heterocyclic substituent
INVENTOR(S): Cumming, Jared N.; Huang, Ying; Li, Guoqing; Iserloh, Ulrich; Stamford, Andrew; Strickland, Corey; Voigt, Johannes H.; Wu, Yusheng; Pan, Jianping; Guo, Tao; Hobbs, Douglas W.; Le, Thuy X. H.; Lowrie, Jeffrey F.
PATENT ASSIGNEE(S): Schering Corporation, USA; Pharmacopeia Drug Discovery, Inc.
SOURCE: PCT Int. Appl., 127 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005014540	A1	20050217	WO 2004-US25748	20040804
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
AU 2004263532	A1	20050217	AU 2004-263532	20040804
CA 2534672	AA	20050217	CA 2004-2534672	20040804
US 2005043290	A1	20050224	US 2004-911030	20040804
EP 1660447	A1	20060531	EP 2004-780561	20040804
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				

PRIORITY APPLN. INFO.: US 2003-493646P P 20030808
WO 2004-US25748 W 20040804

OTHER SOURCE(S): MARPAT 142:240330
ED Entered STN: 18 Feb 2005
GI



I

AB Disclosed are novel compds., e.g., I [R1 = azcycloalkylcarbamoyl, carbamoyl (from piperazine, piperidine or pyrrolidine derivs.); X = O, C(R14)2, N(R); Z is -C(R14)2- or -N(R)-; t is 0, 1, 2 or 3; R, R2 = H, alkyl, cycloalkyl, cycloalkylalkyl, aryl, heteroaryl, heterocycloalkyl, arylalkyl, heteroarylalkyl, heterocycloalkylalkyl, alkenyl or alkynyl; R3, R4 = H, alkyl; R5 = H, alkyl, cycloalkyl, aryl, heteroaryl; R14 = H, alkyl, alkenyl, alkynyl, halo, -CN, haloalkyl, cycloalkyl, cycloalkylalkyl, aryl, heteroaryl, heterocycloalkyl, arylalkyl, heteroarylalkyl, heterocycloalkylalkyl, -OR35, N(R24)(R25)or SR35; R41 is alkyl, cycloalkyl, -S02(alkyl), -C(O)-alkyl, -C(O)-cycloalkyl or -alkyl-NH-C(O)CH3; W = (CR10R11)l; V = (CR12R13)n; Y1 = (Y)m; Y = CR30R31; l = 0 - 3; m = 0, 1; n = 0 - 3 (whereby the sum of l + n = 0 - 3); etc.] or a pharmaceutically acceptable salt or solvate thereof. Also disclosed are pharmaceutical compns. comprising the compds. I and methods of treating cognitive or neurodegenerative diseases with compds. I (no data). Also disclosed are pharmaceutical compns. and methods of treatment comprising compds. I in combination with other agents useful in treating cognitive or neurodegenerative diseases (no data).

IC ICM C07D207-26
ICS C07D413-12; C07D401-12; C07D403-12; C07D401-14; C07D403-14; C07D413-14; C07D417-14; C07D405-06; C07D409-06

CC 27-21 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 1, 7, 63

IT **2584-71-6**, cis-4-Hydroxy-D-proline
RL: RCT (Reactant); RACT (Reactant or reagent)
(N-protection and esterification of; preparation of cyclic amine BACE-1 inhibitors having a heterocyclic substituent)

IT 530-62-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(**carbamylation** by, of 1-propyl-2-piperazinone; preparation of cyclic amine BACE-1 inhibitors having a heterocyclic substituent)

IT 845544-01-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and acylation or **carbamylation** of; preparation of cyclic amine BACE-1 inhibitors having a heterocyclic substituent)

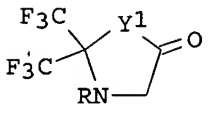
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:99488 CAPLUS
DOCUMENT NUMBER: 142:198059
TITLE: Method for the production of multifunctional linking and cleavable solid-phase reagents
INVENTOR(S): Ruehl, Thomas; Burger, Klaus
PATENT ASSIGNEE(S): Universitaet Leipzig, Germany

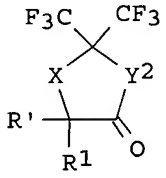
SOURCE: PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005009981	A1	20050203	WO 2004-DE1684	20040722
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10333368	A1	20050217	DE 2003-10333368	20030723

PRIORITY APPLN. INFO.: DE 2003-10333368 A 20030723
OTHER SOURCE(S): CASREACT 142:198059; MARPAT 142:198059
ED Entered STN: 04 Feb 2005
GI



I



II

AB The invention relates to surface-functionalized support materials, I [R = (CH2)nCO-P, (CH2)nNHCO-P, (CH2)nCO-L-P, (CH2)nNHCO-L-P; Y1 = O, S; P = polymer; L = spacer; n = 1 - 12] and II [R' = (CH2)nCO-P, (CH2)nNHCO-P, R = (CH2)nCO-L-P, (CH2)nNHCO-L-P; X2 = NR2, O, S; Y2 = O, S; R1, R2 = H, alkyl; P= polymer; L = spacer ; n = 1 - 12], resp. comprising a polymer surface and at least one linker compound which is bonded to said surface in a covalent manner, as well as to the production and use thereof. In said carrier material, an a-amino, a-thiol or a-hydroxy group and a carboxy group are protected by hexafluoroacetone and, at the same time, linker compds., activated by carboxy groups, are bonded to solid-phase reagents, having hydroxy and/or amine functions (for example, Wang resins), by ester, amide and/or urethane bridges. Such materials may be used for the covalent immobilization of biomols., for the creation of substance libraries in combinatorial chemical, for the synthesis of amino acids, peptides, proteins or mols. with at least one peptide structure unit on solid phases in peptide chemical and for the recovery of affinity-labeling derivs. Thus, I [Y1 = O, R = CH2CO-P, P = 4-OCH2C6H4OCH2-C6H4(Wang resin)-4] was prepared [5-Oxo-2,2-bis(trifluoromethyl)-1,3-oxazolidin-3-yl]acetyl chloride via reaction with 4-HOCH2C6H4OCH2-C6H4(Wang resin)-4 in

pyridine containing catalytic DMAP under ultrasound. I [Y1 = O, R = CH2CO-P, P = 4-OCH2C6H4OCH2-C6H4(Wang resin)-4] was reacted with Nω-Cbz-L-lysine Me ester in pyridine containing catalytic DMAP, acylated with 4-(CF3)C6H4COCl in pyridine containing catalytic DMAP, and cleaved from the resin with aqueous CF3CO2H to give (S)-4-(CF3)C6H4CON(CH2CO2H)CH2CONHCH(CO2Me)(CH2)4NH-Cbz.

IC ICM C07D263-20
ICS C07K001-04; B01J019-00; C07D317-34; C07D327-04; C07D277-14; C07D339-06

CC 28-7 (Heterocyclic Compounds (More Than One Hetero Atom))
Section cross-reference(s): 33, 35

IT **Carbamoylation**
(of polymer derivs. by heterocyclic isocyanates; preparation of multifunctional linking and cleavable solid-phase **reagents** from from 5-membered heterocyclic carbonyl compds.)

IT 259860-85-0P 835876-54-5DP, Wang resin-bound benzyl ether 835876-59-0P 836627-37-3DP, Wang resin-bound benzyl ether 836627-39-5DP, Wang resin-bound benzyl ether 836627-51-1DP, Wang resin-bound benzyl ether 836627-54-4DP, Wang resin-bound benzyl ether 836627-57-7DP, Wang resin-bound benzyl ether 836627-58-8DP, PEGA resin-bound amide 836627-60-2DP, Rink amide resin-bound benzyl amide 836627-62-4DP, Rink amide resin-bound benzyl **urea**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of multifunctional linking and cleavable solid-phase reagents from from 5-membered heterocyclic carbonyl compds.)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1152763 CAPLUS
DOCUMENT NUMBER: 143:422053
TITLE: Process for preparation of carbamates using polymeric carbamates.
INVENTOR(S): Buchold, Henning; Eberhardt, Juergen; Wagner, Ulrich; Woelk, Hans-Joerg
PATENT ASSIGNEE(S): Lurgi A.-G., Germany
SOURCE: Ger., 5 pp.
CODEN: GWXXAW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 102004040193	B3	20051027	DE 2004-102004040193	20040819
WO 2006021250	A1	20060302	WO 2005-EP6352	20050614

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: DE 2004-102004040193A 20040819

ED Entered STN: 28 Oct 2005
AB A process for preparation of carbamic acid esters comprises (1) reaction of urea (derivative) with H(OR)nOH and/or [CH2CH(OH)]p[CH2CHR1]q [R = C2-12 (branched) alkylene; R1 = C1-12 alkyl, aryl, acyl; n = 2-20; p, q = 1-20] optionally in the presence of ammonia cleaving catalysts to give carbamic acid esters of the polymeric alcs. with simultaneous stripping of NH3 or an amine using a stripping gas and/or steam and/or a vacuum - and (2) transesterification of the polymeric carbamate mixts. with an alc. or a phenol.
IC ICM C07C269-04
CC 23-20 (Aliphatic Compounds)
Section cross-reference(s): 35
ST carbamate prepn; **carbamoylation** polymeric carbamate **reagent**
IT **57-13-6**, **Urea**, reactions 9002-89-5D, Polyvinyl alcohol, hydrolyzed
RL: RCT (Reactant); RACT (Reactant or reagent)
(process for preparation of carbamates using polymeric carbamates)
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:20838 CAPLUS
DOCUMENT NUMBER: 140:88127
TITLE: Recombinant tissue protective cytokines variants as erythropoietin receptor modulators and uses for protection, restoration, and enhancement of responsive cells, tissues, and organs
INVENTOR(S): Nielsen, Jacob; Pedersen, Jan Torleif; Gerwien, Jens; Bay, Katrine; Pedersen, Lars Ostergaard; Leist, Marcel; Geist, Marie Aavang; Kallunki, Pekka; Christensen, Soren; Sager, Thomas; Brines, Michael; Cerami, Anthony; Cerami, Carla
PATENT ASSIGNEE(S): The Kenneth S. Warren Institute, Inc., USA; H. Lundbeck A/S
SOURCE: PCT Int. Appl., 323 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004003176	A2	20040108	WO 2003-US20964	20030701
WO 2004003176	A3	20041028		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2491567	AA	20040108	CA 2003-2491567	20030701
AU 2003251770	A1	20040119	AU 2003-251770	20030701
US 2004122216	A1	20040624	US 2003-612665	20030701
EP 1552298	A2	20050713	EP 2003-762330	20030701

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

JP 2006507228	T2	20060302	JP 2004-518233		20030701
NO 2005000504	A	20050322	NO 2005-504		20050128
PRIORITY APPLN. INFO.:			US 2002-392455P	P	20020701
			US 2002-393423P	P	20020703
			WO 2003-US20964	W	20030701

ED Entered STN: 11 Jan 2004

AB Methods and compns. are provided for protecting or enhancing a responsive cell, tissue, organ or body part function or viability in vivo, in situ or ex vivo in mammals, including human beings, by systemic or local administration of an erythropoietin receptor activity modulator, such as an recombinant tissue protective cytokine.

IC ICM C12N

CC 2-10 (Mammalian Hormones)
Section cross-reference(s): 34

IT Acylation
Carbamoylation
Glycosylation
Iodination
Nitration
Phenylation
Sialylation
(of tissue protective cytokines; recombinant tissue protective cytokines variants as erythropoietin receptor modulators and uses for protection and enhancement of responsive cells, tissues, and organs)

IT **598-41-4**, Glycinamide
RL: RCT (Reactant); RACT (Reactant or reagent)
(attached to tissue protective cytokine variants; recombinant tissue protective cytokines variants as erythropoietin receptor modulators and uses for protection and enhancement of responsive cells, tissues, and organs)

IT **71-00-1**, L-Histidine, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(tag, in tissue protective cytokine variants; recombinant tissue protective cytokines variants as erythropoietin receptor modulators and uses for protection and enhancement of responsive cells, tissues, and organs)

L75 ANSWER 10 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER:	2002:808584 CAPLUS
DOCUMENT NUMBER:	138:39378
TITLE:	Asymmetric Synthesis of Chiral α-Ferrocenylalkylamines and Their Use in the Preparation of Chiral Redox-Active Receptors
AUTHOR(S):	Laurent, Pierre; Miyaji, Hidekazu; Collinson, Simon R.; Prokes, Ivan; Moody, Christopher J.; Tucker, James H. R.; Slawin, Alexandra M. Z.
CORPORATE SOURCE:	School of Chemistry, University of Exeter, Exeter, EX4 4QD, UK
SOURCE:	Organic Letters (2002), 4(23), 4037-4040 CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English
OTHER SOURCE(S):	CASREACT 138:39378

ED Entered STN: 24 Oct 2002

AB A new strategy for the asym. synthesis of chiral primary α-ferrocenylalkylamines was used to generate homochiral redox-active receptors that bind chiral carboxylate anions with moderate

enantioselectivity and undergo a redox response to complexation. Thus, diastereoselective addition reaction of the appropriate organometallic reagents to (E)-(S)-(+)-FcCH:NOCH(Ph)Pr (1) in PhMe containing BF3·OEt2 gave 70-85% (1S,1S)-(+)-FcCH(R)NHOCH(Ph)Pr [R = Me2CH (2a), Bu (2b), allyl (2c)]. Reduction of 2a with Zn in AcOH and subsequent carbamoylation with ArNCO (Ar = Ph, 4-O2NC6H4) gave chiral ureas (S)-FcCH(CHMe2)NHCONHAr (4a, 4b, resp.). Both 4a and 4b bound Bu4N+PrCH(Ph)CO2- carboxylate anions in solution, for which cyclic voltammetric measurements are reported. The structures of 1 and (S)-(+)-FcCH(CHMe2)NHCO2CH2Ph (3) were determined by x-ray crystallog.

CC 29-12 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 22, 72, 75

ST alkylamine ferrocenyl stereoselective synthesis reductive **carbamoylation**; crystal structure chiral ferrocenyl oxime carbamate prepn; mol structure chiral ferrocenyl oxime carbamate; oxime ferrocenyl diastereoselective addn organometallic **reagent**; redox active receptor ferrocenyl **urea** prepn complexation phenylbutyrate electrochem

IT Formation constant
(binding constant, of phenylbutyrate salt to chiral ferrocenyl **urea**; preparation of chiral α-ferrocenylalkylamines by diastereoselective addition of organometallic reagents to ferrocenyl oxime and conversion to redox-active receptors)

IT Complexation
(enantioselective, of phenylbutyrate salt to chiral ferrocenyl **urea**; preparation of chiral α-ferrocenylalkylamines by diastereoselective addition of organometallic reagents to ferrocenyl oxime and conversion to redox-active receptors)

IT 54053-42-8P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(amidation, **carbamoylation**; preparation of chiral α-ferrocenylalkylamines by diastereoselective addition of organometallic **reagents** to ferrocenyl oxime and conversion to redox-active receptors)

IT 100-28-7, p-Nitrophenyl isocyanate 103-71-9, Phenyl isocyanate, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(**carbamoylation** of chiral ferrocenylalkylamine by; preparation of chiral α-ferrocenylalkylamines by diastereoselective addition of organometallic **reagents** to ferrocenyl oxime and conversion to redox-active receptors)

IT 478795-56-1 478795-58-3 478795-60-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(complexation with chiral ferrocenyl **ureas**; preparation of chiral α-ferrocenylalkylamines by diastereoselective addition of organometallic reagents to ferrocenyl oxime and conversion to redox-active receptors)

IT 478795-50-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(reduction and subsequent **carbamoylation**; preparation of chiral α-ferrocenylalkylamines by diastereoselective addition of organometallic **reagents** to ferrocenyl oxime and conversion to redox-active receptors)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 11 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:140645 CAPLUS

DOCUMENT NUMBER: 136:262104
TITLE: Radical-scavenging activity and brightly colored pigments in the early stage of the Maillard reaction
AUTHOR(S): Murakami, M.; Shigeeda, A.; Danjo, K.; Yamaguchi, T.; Takamura, H.; Matoba, T.
CORPORATE SOURCE: Graduate School of Human Culture, Nara Women's Univ., Nara, 630-8506, Japan
SOURCE: Journal of Food Science (2002), 67(1), 93-96
CODEN: JFDSAZ; ISSN: 0022-1147
PUBLISHER: Institute of Food Technologists
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 22 Feb 2002
AB The relationship of radical-scavenging activity and formation of brightly colored pigments in the early stage of the Maillard reaction was investigated. The Maillard reaction products of xylose with glycine, histidine, and arginine formed blue, yellow, and red color pigments, resp., in the early stage. Although radical-scavenging activity was found in the early stages of the Maillard reaction, the scavenging activity appeared before the formation of the pigments. The radical-scavenging activity in the early stage of the Maillard reaction was derived from uncolored reaction products smaller than the brightly colored pigments.
CC 17-2 (Food and Feed Chemistry)
IT Browning (food)
Carbamoylation
Food
Maillard reaction
Radical scavengers
(radical-scavenging activity and brightly colored pigments in early stage of Maillard reaction)
IT 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 58-86-6, Xylose, biological studies **71-00-1**, L-Histidine, biological studies 74-79-3, L-Arginine, biological studies
RL: BSU (Biological study, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent)
(radical-scavenging activity of Maillard reaction products from xylose with His, Ala, Gly, or Arg)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 12 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:561624 CAPLUS
DOCUMENT NUMBER: 131:166531
TITLE: Derivatives of Bauhinia purpurea lectin and their use as larvicides
INVENTOR(S): Rao, A. Gururaj; Balasubramaniam, Nandha Kumar
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., USA
SOURCE: U.S., 8 pp., Cont.-in-part of U.S. Ser. No. 921,179.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5945589	A	19990831	US 1993-38761	19930324
PRIORITY APPLN. INFO.:			US 1992-921179	A2 19920724

ED Entered STN: 03 Sep 1999
AB Analogs of Bauhinia purpurea with chemical modification of one or more lysine

residues with preservation of the pos. charge or formation of a neutral residue and that are effective larvicides against insects such as European corn borer are described. Genes for analogs with defined amino acid substitutions may be used to generate transgenic plants with increased resistance to insect pests. Carbamoylated, succinylated, and guanidinated derivs. of a com. preparation of the lectin were prepared by standard chemical **Carbamylated**, guanidinated and deglycosylated lectin 0.25 mg/larva all killed 100% of the Ostrinia nubilalis larvae exposed to them. Succinylated lectin was without effect.

IC ICM A01H005-00
ICS C12N015-82; C12N005-04
INCL 800320100
CC 5-4 (Agrochemical Bioregulators)
IT **Carbamoylation**
Protein sequences
(of Bauhinia purpurea lectin; derivs. of Bauhinia purpurea lectin and their use as larvicides)
IT 56-40-6, Glycine, biological studies 56-41-7, L-Alanine, biological studies 56-45-1, L-Serine, biological studies 56-85-9, L-Glutamine, biological studies 60-18-4, L-Tyrosine, biological studies 61-90-5, L-Leucine, biological studies 63-68-3, L-Methionine, biological studies 63-91-2, L-Phenylalanine, biological studies 70-47-3, L-Asparagine, biological studies **71-00-1**, L-Histidine, biological studies 72-18-4, L-Valine, biological studies 72-19-5, L-Threonine, biological studies 73-22-3, L-Tryptophan, biological studies 73-32-5, L-Isoleucine, biological studies 74-79-3, L-Arginine, biological studies
RL: AGR (Agricultural use); BIOL (Biological study); USES (Uses)
(derivatization of Bauhinia purpurea lectin by substitution of lysine by; derivs. of Bauhinia purpurea lectin and their use as larvicides)
IT 108-30-5, reactions 590-28-3, Potassium **cyanate** 2440-60-0, O-Methylisourea
RL: RCT (Reactant); RACT (Reactant or reagent)
(derivatization of of Bauhinia purpurea lectin with; derivs. of Bauhinia purpurea lectin and their use as larvicides)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L75 ANSWER 13 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1990:153397 CAPLUS
DOCUMENT NUMBER: 112:153397
TITLE: Effects of chemical modifications of Pa-11, a phospholipase A2 from the venom of Australian king brown snake (Pseudechis australis), on its biological activities
AUTHOR(S): Takasaki, C.; Sugama, A.; Yanagita, A.; Tamiya, N.; Rowan, E. G.; Harvey, A. L.
CORPORATE SOURCE: Fac. Sci., Tohoku Univ., Sendai, 980, Japan
SOURCE: Toxicon (1990), 28(1), 107-17
CODEN: TOXIA6; ISSN: 0041-0101
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 28 Apr 1990
AB Pa-11, a phospholipase A2 isolated from the venom of an Australian elapid snake P. australis, was chemical modified and its enzymic, neuromuscular, and lethal activities were studied. Carboxymethylation of Met-8 gave a derivative with 2% of the enzymic activity and <3% of the lethal activity of native Pa-11; it had .apprx.5% of the original ability to block directly and indirectly stimulated mouse phrenic nerve-hemidiaphragm prepns. Nitrophenylsulfenylatin of tryptophanyl residues at positions 31 and 69 caused loss of all activities. Amidination of all 14 lysyl residues gave

a derivative with 41% and 16% of the enzymic and lethal activities, resp., but with <5% of the original neuromuscular blocking activity. Mono-carbamoylation of lysyl residues at positions 58, 63, 81, and 85 was achieved. The most abundant derivative, 58-carbamoyl-lysine Pa-11, was enzymically 130% and lethally 100% active as native Pa-11, but it had only .apprx.20% of the native's neuromuscular activity in vitro. 63-Carbamoyl-lysine Pa-11 had 10% of the enzymic and 20% of the lethal activities, resp.; however, it retained >50% of its ability to block neuromuscular transmission in vitro, while losing most of its activity to block directly stimulated muscle contractions. Eighty one- and 85-carbamoyl derivs. have the same enzymic and lethal activities as the original protein, but the 85 derivative had <10% of the native neuromuscular activity. Hence, modifications of lysine residues at positions 58, 63, and 85 seem to be particularly effective in altering the neuromuscular, but not enzymic, activity of Pa-11, perhaps by altering the ability of the toxin to bind to its target on nerve and muscle membranes. Modification at position 63 appears to lead to a dissociation of effects on neuromuscular transmission and directly on muscle cells.

CC 4-5 (Toxicology)

IT **Carbamoylation**
(of lysyl residues, of Pa-11 from venom of Australian king brown snake, enzymic and letahl and neuromuscular activities in relation to)

IT **71-00-1**, Histidine, biological studies
RL: BIOL (Biological study)
(bromophenacylation of, of Pa-11 from venom of Australian king brown snake, enzymic and lethal and neuromuscular activities in relation to)

L75 ANSWER 14 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1988:493607 CAPLUS
DOCUMENT NUMBER: 109:93607
TITLE: Preparation of hydantoic acids and hydantoins
INVENTOR(S): Paul, Albertha M.; Freedman, Harold H.
PATENT ASSIGNEE(S): Dow Chemical Co., USA
SOURCE: U.S., 4 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4746755	A	19880524	US 1986-860161	19860506

PRIORITY APPLN. INFO.: US 1986-860161 19860506
OTHER SOURCE(S): CASREACT 109:93607
ED Entered STN: 17 Sep 1988
AB A H2O-soluble amine and a highly H2O-reactive isocyanate are reacted in a two phase system by dissolving the isocyanate in a H2O-insol. to slightly soluble organic solvent, particularly EtOAc, and the amine in H2O at pH 10-14 and rapidly mixing the resulting solns. together to give a hydantoic acid in high yields. The process is very effective when aryl isocyanates and primary amines are used. Thus, 0.05 mol PhNCO (I) was dissolved in 80 mL EtOAc, and 0.05 mol H2NCH2CO2Na was dissolved in 150 mL H2O maintaining pH at 10-14. The aqueous alkaline solution was stirred at 200 rpm with a magnetic stirrer and the EtOAc solution of I was added in one portion. The mixture was stirred at room temperature for 16 h to give, after acidification, 97% PhNHCONHCH2CO2H.
IC ICM C07C099-00
INCL 562450000
CC 34-2 (Amino Acids, Peptides, and Proteins)

IT **Carbamoylation**
(of amines by aryl isocyanates)
IT 56-86-0, L-Glutamic acid, reactions 107-97-1, Sarcosine 110-85-0, Piperazine, reactions 110-91-8, Morpholine, reactions 141-43-5, reactions 142-73-4 **556-50-3** 6000-44-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbamoylation of, by Ph isocyanate)

L75 ANSWER 15 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1986:493599 CAPLUS
DOCUMENT NUMBER: 105:93599
TITLE: Nonessentiality of histidine 291 of Rhodospirillum rubrum ribulose-bisphosphate carboxylase/oxygenase as determined by site-directed mutagenesis
AUTHOR(S): Niyogi, Salil K.; Foote, Robert S.; Mural, Richard J.; Larimer, Frank W.; Mitra, Sankar; Soper, Thomas S.; Machanoff, Richard; Hartman, Fred C.
CORPORATE SOURCE: Biol. Div., Oak Ridge Natl. Lab., Oak Ridge, TN, 37831, USA
SOURCE: Journal of Biological Chemistry (1986), 261(22), 10087-92
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 19 Sep 1986
AB To explore further the possible function of histidine (His)-298 in spinach ribulose diphosphate carboxylase/oxygenase, site-directed mutagenesis was used to replace the corresponding residue of the R. rubrum carboxylase (His-291) with alanine (Ala). Assays of exts. of Escherichia coli JM107, harboring either the wild-type or mutant gene in an expression vector, revealed that the mutant protein is .apprx.40% as active catalytically as the normal carboxylase. After purification to near homogeneity by immunoaffinity chromatog., the mutant protein was partially characterized with respect to subunit structure, kinetic parameters, and interaction with a transition-state analog. The purified mutant carboxylase had a kcat (catalytic constant) of 1.5 s-1 and a kcat/Km of 1.7 + 104 M-1 s-1 in contrast to values of 3.6 s-1 and 6 + 105 M-1 s-1 for the normal enzyme. The high level of enzyme activity exhibited by the Ala-291 mutant excludes His-291 in the R. rubrum carboxylase (and by inference His-298 in the spinach carboxylase) as a catalytically essential residue.
CC 7-5 (Enzymes)
IT **Carbamoylation**
(of ribulose diphosphate carboxylase mutant form, of Rhodospirillum rubrum, histidine nonessentiality in relation to)
IT **71-00-1**, biological studies
RL: BIOL (Biological study)
(of ribulose diphosphate carboxylase, of Rhodospirillum rubrum, nonessentiality of)

L75 ANSWER 16 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1980:180236 CAPLUS
DOCUMENT NUMBER: 92:180236
TITLE: Elimination-addition mechanism of acyl group transfer: transcarbamoylation in aminoalkylimidazoles carbamoylated on the heterocyclic nitrogen
AUTHOR(S): Al-Rawi, Huda; Day, Richard A.; Farrar, Charles R.; Williams, Andrew
CORPORATE SOURCE: Chem. Lab., Univ. Kent, Canterbury, CT2 7NH, UK
SOURCE: Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1979),

(9), 1153-9
CODEN: JCPKBH; ISSN: 0300-9580
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB Histamine and histidine are carbamoylated on the ring N (probably Nπ) in aqueous solns. of HNCO at pH 3-11. A further reaction then occurs in which the carbamoyl group is transferred from the ring to the amino N to form a urea. Most of this reaction occurs by an intermol. elimination-addition process involving NCO- as an intermediate, and not through intramol. nucleophilic attack by amine on the Nπ-carbamoylimidazolyl function.
CC 22-3 (Physical Organic Chemistry)
IT **Carbamoylation**
(of histamine and histidine, by cyanate, mechanism of)
IT 51-45-6, reactions **71-00-1**, reactions 288-32-4, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(carbamoylation of, by cyanate, kinetics of)

L75 ANSWER 17 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1976:488906 CAPLUS
DOCUMENT NUMBER: 85:88906
TITLE: The carbamate reaction of glycylglycine, plasma, and tissue extracts evaluated by a pH stopped flow apparatus
AUTHOR(S): Gros, Gerolf; Forster, Robert E.; Lin, Lydia
CORPORATE SOURCE: Sch. Med., Univ. Pennsylvania, Philadelphia, PA, USA
SOURCE: Journal of Biological Chemistry (1976), 251(14), 4398-407
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 May 1984
AB A stopped-flow rapid-reaction pH apparatus was used to investigate the carbamate equilibrium in glycylglycine solns. and in 3 biol. tissues, human plasma, sheep muscle, and sheep brain, as well as to investigate the kinetics of carbamate formation in glycylglycine solution and in human plasma. The rapid-reaction apparatus was equipped with a pH-sensitive glass electrode to follow the time course of pH from 0.005 to 100 sec after rapid mixing of a solution of amine or protein and CO2. Two phases of the pH curve were observed: a fast phase representing carbamate formation and a slow phase due to the hydration of CO2 which was uncatalyzed since a carbonic anhydrase inhibitor was added to the biol. solns. From the time course of pH change during the fast phase K2, the R-NH2 ionization constant, and Kc, the carbamate equilibrium constant as well as the velocity constant for the formation of carbamate, ka was calculated from data at different pH and pCO2. The carbamate formed in glycylglycine solns. over a wide range of pH and pCO2 was consistent with the theory of carbamate formation and with published data. At ionic strength 0.16 and 37° pK is 7.67, pKc 4.58. The heat of the carbamate reaction (ΔH) was calculated as -3.2 kcal/mole between 20° and 37°. Kv of glycylglycine depends quant. on ionic strength as predicted by the Debye-Huckel theory. With ionic strength 0.16 ka was 2500M-1 sec-1 at 37°. The activation energy of carbamate formation is 6.7 kcal/mole. Carbamate measurements in human plasma at pCO2 from 38 to 359 torr, pH from 6.9 to 8.3, temperature 37°, and ionic strength 0.15 provided evidence that 2 kinds of amino groups participate in carbamate formation. From the equilibrium consts. computed for the 2 species they were identified as α- and ε-NH2 groups. On the basis of a protein mol. weight of 69,000, 0.6 α-NH2 groups/mol. with pKz = 7.0 and pKv = 4.2 and 5.9 ε-NH2 groups/mol. with pKz = 9.0 and pKv = 4.3 contribute to carbamate

formation. The velocity constant kα was estimated to be 4950M1- sec-1 for the α-NH2 groups and 13,800M-1 sec-1 for the ε-NH2 groups. Under physiol. conditions (pCO2 = 40 torr, pH = 7.4), the concentration of carbamate in plasma is 0.6 mM and the half-time of carbamate formation is 0.05 sec. In exts. prepared from sheep brain at 37° pH = 7 and pCO2 = 35 torr, the carbamate formation was estimated to be 0.08 mM. With pCO2 = 70 torr and the same pH and temperature, the carbamate concentration in muscle approximates 0.3 mM and increases to 7 mM as pH rises to 8. Thus, as in plasma, a considerable number of ε-NH2 groups appear to be available for carbamate formation in these tissues.

CC 6-13 (General Biochemistry)
ST **carbamylation** tissue plasma glycylglycine
IT Proteins
RL: BIOL (Biological study)
(blood-plasma, **carbamylation** of)
IT Animal tissue
Brain
Muscle
Hemoglobins
RL: PROC (Process)
(**carbamylation** of)
IT Amino group
(in **carbamylation** of proteins)
IT Heat, chemical and physical effects
(on **carbamylation** of glycylglycine)
IT Ions in liquids
(strength of, **carbamylation** of glycylglycine in relation to)
IT **556-50-3**
RL: PROC (Process)
(**carbamylation** of)

L75 ANSWER 18 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1974:79368 CAPLUS
DOCUMENT NUMBER: 80:79368
TITLE: Chemical modification of egg white flavoprotein
AUTHOR(S): Kawabata, Makoto; Taguchi, Kuniko
CORPORATE SOURCE: Kyoto Prefect. Univ., Kyoto, Japan
SOURCE: Kyoto-furitsu Daigaku Gakujutsu Hokoku, Rigaku, Seikatsu Kagaku (1973), (24), 7-10
CODEN: KFDGBB; ISSN: 0075-739X
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 12 May 1984
AB The apoprotein (I) moiety of egg white flavoprotein was separated and chemical modified. The flavine-binding capacity of I was lost by S-carboxymethylation, iodination, 2-hydroxy-5-nitrobenzylation, or sulfitolysis; it was decreased by methylation, but not affected by acetylation with AcO- or N-acetylimidazole, succinylation, or **carbamylation.** The capacity for flavine binding was not affected in the presence of 6M **urea**, but it was lost in the presence of 8M **urea.** These results suggest that flavine binds to the indole group of tryptophan or the imidazole group of histidine in I. The conformation is probably maintained by SS or H bonds.
CC 6-3 (General Biochemistry)
IT **71-00-1**, biological studies 73-22-3, biological studies
RL: BIOL (Biological study)
(flavine-apoflavoprotein interaction in relation to)

L75 ANSWER 19 OF 27 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1966:52354 CAPLUS

DOCUMENT NUMBER: 64:52354
ORIGINAL REFERENCE NO.: 64:9814g-h
TITLE: Quantitative blocking of amino groups in acid solution by **carbamylation**
AUTHOR(S): Smyth, Derek G.; Stark, George R.
CORPORATE SOURCE: Natl. Inst. Med. Res., London
SOURCE: Analytical Biochemistry (1966), 14(1), 152-6
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 22 Apr 2001
AB Peptides and amino acids were rapidly **carbamylated** by KNCO at pH 5.8 and 30°. Under these conditions, O-acyl amino acids and peptides are stable. Furthermore, both the carbamyl group and the peptide bonds are stable to 1M piperidine at 0° for 2 hrs. When carbamyl-L-Leu-Gly-Gly, was heated in anhydrous trifluoroacetic acid at 70 or 100° in a sealed tube, 80% of the product was Gly-Gly. The remaining product was a mixture of Leu-Gly-Gly, glycine, and leucine, indicating some unwanted cleavage of the carbamyl group and of the Gly-Gly peptide bond had occurred. **Carbamylation** may find use in the method of peptide bond cleavage at residues of serine and threonine (Lenard and Hess, CA 61, 10981g).
CC 44 (Amino Acids, Peptides, and Proteins)
IT 72-19-5, Threonine 556-33-2, Glycine, N-(N-glycylglycyl)-
556-50-3, Glycine, N-glycyl- 4985-36-8, Serine, acetate (ester)
5629-58-3, Threonine, benzoate (ester)
(reaction with K **cyanate**)
IT 590-28-3, Potassium **cyanate**
(reaction with amino acids)

L75 ANSWER 20 OF 27 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1986-043779 [07] WPIDS
DOC. NO. CPI: C1986-018404
TITLE: Inhibition of **peptide carbamylation** - using di amine cyanate scavenger.
DERWENT CLASS: B04
INVENTOR(S): DIMARCHI, R D
PATENT ASSIGNEE(S): (ELIL) LILLY & CO ELI
COUNTRY COUNT: 14
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
EP 171276	A	19860212	(198607)*	EN	15
R: AT BE CH DE FR GB IT LI LU NL SE					
DK 8503567	A	19860209	(198619)		
US 4605513	A	19860812	(198635)		
CA 1254350	A	19890516	(198924)		
EP 171276	B1	19930428	(199317)	EN	8
R: AT BE CH DE FR GB IT LI LU NL SE					
DE 3587301	G	19930603	(199323)		
DK 172208	B	19980105	(199809)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

EP 171276	A	EP 1985-305536	19850802
US 4605513	A	US 1984-638848	19840808
EP 171276	B1	EP 1985-305536	19850802
DE 3587301	G	DE 1985-3587301	19850802
		EP 1985-305536	19850802
DK 172208	B	DK 1985-3567	19850806

FILING DETAILS:

PATENT NO	KIND		PATENT NO
DE 3587301	G	Based on	EP 171276
DK 172208	B	Previous Publ.	DK 8503567

PRIORITY APPLN. INFO: US 1984-638848 19840808

AB EP 171276 A UPAB: 19930922

Carbamylation of **peptides** during treatment is inhibited by carrying out the treatment in the presence of a cyanate scavenger (I) selected from ethylenediamine (EDA) and EDA-like materials.

Specifically (I) is of formula R3R4N-CHR1-CHR2-NH2, where R1 and R2=H, OH, 1-3C n-alkyl, CH2OH or benzyl; R3 and R4=H, 1-3C n-alkyl, CH2OH or benzyl. Pref. purificn. of insulin or proinsulin is effected in an aqueous **urea** medium in the presence of 1-200 (especially 10-50) mM EDA.

USE - The process is especially applicable to **peptide** (especially insulin) treatments performed in aqueous **urea** solns. e.g. purificn. or sulphitolysis.

0/0

L75 ANSWER 21 OF 27 WPIDS COPYRIGHT 2006 THE THOMSON CORP on STN
ACCESSION NUMBER: 1983-850651 [51] WPIDS
DOC. NO. NON-CPI: N1983-228877
DOC. NO. CPI: C1983-125614
TITLE: Early detection of infectious mononucleosis - by identifying Inmono **proteins** in blood.
DERWENT CLASS: B04 P31
INVENTOR(S): WILLARD, K E
PATENT ASSIGNEE(S): (USAT) US DEPT ENERGY
COUNTRY COUNT: 2
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 406830	A0	19830927	(198351)*		23
US 4474886	A	19841002	(198442)		
CA 1195596	A	19851022	(198547)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 406830	A0	US 1982-406830	19820810

PRIORITY APPLN. INFO: US 1982-406830 19820810

AB US N6406830 N UPAB: 20011211

Infectious mononucleosis is detected at an early stage by preparing a two-dimensional **protein** map from a blood sample. The Inmono **proteins**, indicative of the disease, have isoelectric bonding (measured in **urea**) -16 to -17 (relative to **carbamylated** creatine phosphokinase as isoelectric point standards) and mol.weight

70000-75000 (measured in Na dodecylsulphate-containing polyacrylamide gels).
Pref. the leucocytes, erythrocytes etc. are removed first from the blood sample and it is especially pref. to radio-label the **proteins** (e.g. with 35S-methionine) to facilitate ease of detection at low levels. The **proteins** are separated by isoelectric focussing in the first direction and by mol.weight sieving in the second. Mol.weight standards are e.g. prepared from rat heart homogenate.
The method detects the disease at an earlier stage than the conventional 'Monospot' (RTM) test, and allows differentiation between mononucleosis and lymphocytic leukaemia.
Dwg.0/3

L75 ANSWER 22 OF 27 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN
ACCESSION NUMBER: 2004:250944 BIOSIS
DOCUMENT NUMBER: PREV200400251667
TITLE: Uremia and insulin resistance: N-carbamoyl-asparagine decreases insulin-sensitive glucose uptake in rat adipocytes.
AUTHOR(S): Kraus, Lorraine M. [Reprint Author]; Traxinger, Roger; Kraus, Alfred P. Jr.
CORPORATE SOURCE: Department of Molecular Sciences, University of Tennessee Health Science Center, 894 Union Ave., Room 210 or Room 105, Memphis, TN, 38163, USA
lkraus@utmem.edu
SOURCE: Kidney International, (March 2004) Vol. 65, No. 3, pp. 881-887. print.
ISSN: 0085-2538 (ISSN print).
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 12 May 2004
Last Updated on STN: 12 May 2004
AB Background: In uremia, **urea**-derived **cyanate** reacts with amino groups irreversibly forming carbamoyl amino acids (C-AA) and carbamoyl proteins. **Carbamoylated** molecules can affect binding and trafficking and alter metabolic pathways. The C-AA role in insulin-sensitive glucose transport has not been explored and may contribute to insulin resistance in uremia. Methods: Insulin-stimulated glucose uptake by cultured rat adipocytes was measured using both 3-minute and 3-second assays. Adipocytes were incubated for 24 hours in medium containing 0.5 mumol/mL of 15 different C-AA. 125I-insulin binding studies were done. C-asparagine in plasma from 10 uremic patients on continuous ambulatory peritoneal dialysis (CAPD) was measured using high-performance liquid chromatography (HPLC). Results: Insulin-sensitive glucose uptake was reduced 34% by N-carbamoyl-L-asparagine, (N-C-Asn), in a dose-dependent manner with a half-maximally effective concentration of 0.15 mumol/mL. Fourteen other N-carbamoyl-amino acids as well as 0.5 mumol/mL of asparagine did not affect insulin sensitive glucose uptake. N-C-Asn, L-asparagine, and the other N-carbamoyl amino acids (0.5 mumol/mL) had no effect on basal glucose uptake. These data suggest that that N-C-Asn affects the insulin sensitive glucose transporter system. 125I-insulin binding studies demonstrated that N-C-Asn did not alter insulin binding. Glucose uptake measured using a 3-second assay showed that the glucose affinity of the transporter and glucose phosphorylation were not affected. In uremic patients managed by CAPD, the mean free N-C-Asn plasma level was 1.33 mumol/mL. Conclusion: These data suggest that N-C-Asn concentration may contribute to the insulin resistance seen in uremia.
IT Major Concepts

Biochemistry and Molecular Biophysics; Endocrine System (Chemical Coordination and Homeostasis); Metabolism; Urinary System (Chemical Coordination and Homeostasis)

IT Parts, Structures, & Systems of Organisms
adipocyte

IT Diseases
insulin resistance: endocrine disease/pancreas, metabolic disease
Insulin Resistance (MeSH)

IT Diseases
uremia: urologic disease
Uremia (MeSH)

IT Chemicals & Biochemicals
C-asparagine; L-asparagine; N-carbamoyl-alanine; N-carbamoyl-arginine; N-carbamoyl-asparagine; N-carbamoyl-aspartic acid; N-carbamoyl-glutamic acid; N-carbamoyl-glycine; N-carbamoyl-**histidine**; N-carbamoyl-isoleucine; N-carbamoyl-leucine; N-carbamoyl-phenylalanine; N-carbamoyl-serine; N-carbamoyl-threonine; N-carbamoyl-tryptophan; N-carbamoyl-tyrosine; N-carbamoyl-valine; carbamoyl amino acid; glucose: phosphorylation, uptake

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ACCESSION NUMBER: 1998:312605 BIOSIS
DOCUMENT NUMBER: PREV199800312605
TITLE: Essential carbamoyl-amino acids formed in vivo in patients with end-stage renal disease managed by continuous ambulatory peritoneal dialysis: Isolation, identification, and quantitation.
AUTHOR(S): Kraus, Lorraine M. [Reprint author]; Jones, Michael R.; Kraus, Alfred P., Jr.
CORPORATE SOURCE: Dep. Biochem., Univ. Tenn., 858 Madison Ave., Suite G01, Memphis, TN 38163, USA
SOURCE: Journal of Laboratory and Clinical Medicine, (May, 1998) Vol. 131, No. 5, pp. 425-431. print.
CODEN: JLCMAK. ISSN: 0022-2143.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 15 Jul 1998
Last Updated on STN: 15 Jul 1998

AB Carbamoyl-amino acids (C-AA) are formed by reaction of amino acids with **cyanate**, which is spontaneously formed from **urea** at body temperature and pH. In vivo derivatized C-AA are not measured by the usual amino acid analysis methods, which require a free amino group for derivatization. Free-amino acids (F-AA) but no C-AA were found in the postabsorptive plasma of eight normal persons with blood **urea** nitrogen (BUN) levels ranging from 9 to 16 mg/dl. In a longitudinal study of postprandial plasma (n = 43), essential amino acids, both C-AA and F-AA, were isolated and quantified by reverse-phase high-pressure liquid chromatography in six patients with end-stage renal disease who were managed by continuous ambulatory peritoneal dialysis. The mean BUN was 61 mg/dl (range, 36 to 79 mg/dl). In uremia, removal of F-AA from the essential amino acid pool to form C-AA is measured by the ratio of C-AA to F-AA (**carbamoylation** index (CI)). Using the mean value for each essential amino acid, the Cis were as follows: leucine, 4; valine, 3.3; isoleucine, 11.4; threonine, 9; lysine, 2; methionine, 3.5; **histidine**, 3.5; phenylalanine, 0.5; and tyrosine, 1.3. **Carbamoylation** of F-AA may account, in part, for the lower than normal levels of F-AA in patients with uremia. The derivatized amino group of C-AA interferes with formation of a peptide bond in protein synthesis, which requires an underivatized amino acid. A decrease in the

F-AA pool available for protein synthesis and anabolism in the presence of C-AA may provide additional contributing factors for the development of malnutrition in uremia.

IT Major Concepts
Clinical Chemistry (Allied Medical Sciences); Nephrology (Human Medicine, Medical Sciences); Nutrition

IT Diseases
end-stage renal disease: urologic disease
Kidney Failure, Chronic (MeSH)

IT Diseases
malnutrition: nutritional disease
Nutrition Disorders (MeSH)

IT Diseases
uremia: urologic disease
Uremia (MeSH)

IT Chemicals & Biochemicals
essential carbamoyl-amino acids: identification, isolation, quantitation; protein: synthesis

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ACCESSION NUMBER: 1996:432483 BIOSIS
DOCUMENT NUMBER: PREV199699146089
TITLE: **Carbamylation** of erythrocyte membrane proteins: An in vitro and in vivo study.
AUTHOR(S): Trepanier, Daniel J.; Thibert, Roger J. [Reprint author]; Draisey, Thomas F.; Caines, Patrick S.
CORPORATE SOURCE: Dep. Chem. Biochem., Univ. Windsor, Windsor, ON N9B 3P4, Canada
SOURCE: Clinical Biochemistry, (1996) Vol. 29, No. 4, pp. 347-355. CODEN: CLBIAS. ISSN: 0009-9120.
DOCUMENT TYPE: Article
LANGUAGE: English
ENTRY DATE: Entered STN: 26 Sep 1996
Last Updated on STN: 26 Sep 1996

AB Objectives: To establish the degree of erythrocyte membrane protein **carbamylation** in uremic and nonuremic patients, and to characterize the in vitro binding of **cyanate** to the individual proteins of the cytoskeletal matrix. Design and Methods: For in vivo studies, erythrocyte ghosts were digested with proteinase K and the released **peptides** colorimetrically assayed for **carbamylation**, using the diacetyl monoxime reagent, and quantitated using homocitrulline. For in vitro studies, erythrocyte ghosts were incubated with (14C) **cyanate**, and the membrane proteins separated by SDS-PAGE. **Cyanate** incorporation was quantitated by liquid scintillation counting and imaging densitometry of the excised bands. Results: Erythrocytes from uremic patients were found to have a greater level of **carbamylation** than those from nonuremic patients (47.09 +- 7.80 and 25.89 +- 6.92 nmol homocitrulline/mg proteolyzed protein released, respectively). In vitro incorporation of (14C) **cyanate** into membrane protein followed the sequence: spectrin gt ankyrin gt Band 4.1 gt Band 3 gt actin gt Band 7. Conclusions: The increased level of erythrocyte membrane protein **carbamylation** in uremic compared to nonuremic patients may lead to membrane destabilization and contribute to the **decreased** erythrocyte survival time observed in uremia.

IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Cell Biology; Metabolism; Pathology; Urinary System (Chemical Coordination and Homeostasis)

IT Chemicals & Biochemicals
PROTEINASE K; **CYANATE**

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ACCESSION NUMBER: 1996:5392 BIOSIS
DOCUMENT NUMBER: PREV199698577527
TITLE: Amino acids **carbamoylated** in vivo by **urea** -derived **cyanate** are removed from plasma by hemodialysis.
AUTHOR(S): Kraus, Alfred P., Jr. [Reprint author]; Florendo, Katherine N.; Kraus, Lorraine M.
CORPORATE SOURCE: Dep. Biochem., Div. Nephrology, Univ. Tenn., Coll. Med., Memphis, TN, USA
SOURCE: Journal of the American Society of Nephrology, (1995) Vol. 6, No. 3, pp. 582.
Meeting Info.: Annual Meeting of the American Society of Nephrology. San Diego, California, USA. November 5-8, 1995.
CODEN: JASNEU. ISSN: 1046-6673.
DOCUMENT TYPE: Conference; (Meeting)
Conference; Abstract; (Meeting Abstract)
LANGUAGE: English
ENTRY DATE: Entered STN: 4 Jan 1996
Last Updated on STN: 4 Jan 1996
IT Major Concepts
Biochemistry and Molecular Biophysics; Blood and Lymphatics (Transport and Circulation); Metabolism; Urology (Human Medicine, Medical Sciences)
IT Chemicals & Biochemicals
UREA; **CYANATE**; ISOLEUCINE; LEUCINE; VALINE; THREONINE; **HISTIDINE**; PHENYLALANINE

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ACCESSION NUMBER: 1987:102193 BIOSIS
DOCUMENT NUMBER: PREV198783051171; BA83:51171
TITLE: AMINO-TERMINAL **CARBAMYLATION** OF THE HYALURONIC-ACID-BINDING REGION AND THE LINK PROTEIN FROM THE CHONDROSARCOMA PROTEOGLYCAN AGGREGATE.
AUTHOR(S): STEVENS J W [Reprint author]; HASCALL V C
CORPORATE SOURCE: MED RES, VA MED CENT, 700 S 19TH ST, BIRMINGHAM, ALA 35233, USA
SOURCE: Journal of Biological Chemistry, (1986) Vol. 261, No. 33, pp. 15442-15449.
CODEN: JBCHA3. ISSN: 0021-9258.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH
ENTRY DATE: Entered STN: 26 Feb 1987
Last Updated on STN: 26 Feb 1987
AB The ternary complex consisting of a 65-kDa **peptide** originating from the proteoglycan core protein and a 43-kDa link protein bound to hyaluronic acid was purified from a clostripain digest of the rat chondrosarcoma aggregating proteoglycan and 14C]-**carbamylated** with potassium [14C-**cyanate**. At a pH of 8.0, 14C-**carbamylation** of the α-NH2 groups in the N-terminal amino acids was favored over **carbamylation** of ξ-NH2 groups in the lysinyl residues for both the 65- and 43-kDa species. Two-dimensional tryptic **peptide** maps revealed a single major, distinctly different, fluorographic spot for each. These tryptic **peptides**

had approximate masses of 4.5 kDa (from the 65-kDa species) and 3.0 kDa (from the 43-kDa species) on sodium dodecyl sulfate-polyacrylamide gel electrophoresis gels and each contained greater than 60% of the total radioactivity associated with its original polypeptide. Primary amino acid sequencing for the first 4 N-terminal residues, whereas sequencing through the first 4 residues of a fully **carbamylated** species gave no dabsylated derivative for the first residue but identical residues in position 2-4 as for the noncarbamylated species and loss of radioactive derivative. Digests of 14C-**carbamylated** ternary complex with α-chymotrypsin resulted in a **limit** 14C-**carbamylated** 55-kDa species which contained greater than 85% of the radiolabel originally in the 65-kDa **peptide** . Similarly, trypsin generated two radiolabeled species, 60 and 58 kDa. These limit digest **peptides** (55, 60, 58 kDa) all contained the 4.5-kDa N-terminal tryptic **peptide.** Thus **peptides** removed from the 65-kDa **peptide** digestion with either α-chymotrypsin or trypsin were on the carboxyl end of the molecule.

IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Metabolism; Skeletal System (Movement and Support); Tumor Biology

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ACCESSION NUMBER: 1980:234989 BIOSIS
DOCUMENT NUMBER: PREV198070027485; BA70:27485
TITLE: TEMPERATURE SENSITIVE MUTANTS OF FOOT-AND-MOUTH DISEASE VIRUS WITH ALTERED STRUCTURAL POLY PEPTIDES 1. IDENTIFICATION BY ELECTRO FOCUSING.
AUTHOR(S): KING A M Q [Reprint author]; NEWMAN J W I
CORPORATE SOURCE: GENET DEP, ANIM VIRUS RES INST, PIBRIGHT, WOKING GU24 0NF, SURREY, ENGL, UK
SOURCE: Journal of Virology, (1980) Vol. 34, No. 1, pp. 59-66. CODEN: JOVIAM. ISSN: 0022-538X.
DOCUMENT TYPE: Article
FILE SEGMENT: BA
LANGUAGE: ENGLISH

AB The structural polypeptides of foot-and-mouth disease virus were analyzed by electrofocusing in a polyacrylamide gel containing 9 M **urea.** Three versions of the technique were used to accommodate the widely differing isoelectric points of the 4 polypeptides. VP2 was identified by comparing mature virus with procapsids. The selective actions of proteases on virions of 2 serotypes and on their 12S particles were examined. From this emerged a simple test for distinguishing the similarly sized polypeptides: VP1, VP2 and VP3. The effects of **carbamylation** and succinylation on the charge of the polypeptides were investigated. Analysis of the properties of polypeptides modified chemically or by mutation showed that all amino acid substitutions expected to cause a charge change are detected except for neutral-to-**histidine** substitutions in the most basic polypeptide, VP1. In 73 temperature-sensitive mutants, 11 classes of variant polypeptides were distinguished on the basis of charge. Their MW were unchanged. Alterations were found in all structural polypeptides except VP4. Mutations affecting VP2 caused similar shifts in the precursor, VP0.

IT Major Concepts
Biochemistry and Molecular Biophysics; Genetics; Microbiology

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